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COEUR D'ALENE RIVER FISHERY STUDIES

An Environmental Protection Agency Sponsored Project

by

Steve Bauer
Biological Aide

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COEUR D'ALENE RIVER FISHERY STUDY

ABSTRACT:

The main stem of the Coeur d'Alene River, below the confluence with the South Fork, has long been considered as too polluted by mining wastes to support a salmonid population or to allow fish passage to unpolluted water upstream. However, many factors have raised the possibility that an adfluvial run of cutthroat and/or rainbow trout is present in the Coeur d'Alene River drainage.

I found no direct evidence during the project that an adfluvial run of trout occurs in the Coeur d'Alene River above the South Fork. However, indirect evidence demonstrates that trout probably do make a spawning run.

Trout can survive in the lower Coeur d'Alene River, perhaps long enough to migrate to unpolluted areas as illustrated by the 1974 livebox bioassay, and by the fact that we collected brook and cutthroat trout below the confluence with the South Fork.

The adfluvial run of cutthroat in Fourth of July Creek in 1972 is evidence for the presence of migrating trout in the lower Coeur d'Alene River.

The largest documented cutthroat spawning run along the Coeur d'Alene River occurs in tributaries to Cave and Medicine lakes. Cutthroat are also caught in other lateral lakes. So far, it appears that these particular populations are restricted to the lateral lakes.

Author:

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RECOMMENDATIONS

To continue this project in future summers I would recommend the following:

1. Check the following stream areas for the presence of lake-run cutthroat beginning 1 April:

Clark Creek - SE4 Sec 27 T.48N, R.2W
Robinson Creek - NW4 Sec 25 and SE4 Sec 23 T.48N R.2W
Evans Creek - NE4 Sec 11 T.47N, R.2W
Willow Creek - Sec 4 T.47N, R.2W Blue
Lake Creek - Sec 14 T.48N, R.3W Fortier
Creek - NE4 Sec 3 T.48N, R.2W Rose Lake
Creek - SW4 Sec 28 T.49N, R.1W
Latour Creek - Sec 7 T.48N R.1E
2. Since fish are reportedly being harvested from various sections of the South Fork Coeur d'Alene River, it would be valuable to determine the present species composition and distribution in this stream.
3. Continue and intensify cutthroat tagging and recovery efforts in future years.

INTRODUCTION

The mainstem of the Coeur d'Alene River, below the confluence with the South Fork, has long been considered as too polluted by mining wastes to support a salmonid population or to allow fish passage to unpolluted water upstream (Figure 1). However, many factors have raised the possibility that an adfluvial run of cutthroat and/or rainbow trout is present in the Coeur d'Alene River drainage.

Local residents have reported observing trout apparently moving up the lower main stem and in tributaries not connected to the lateral lakes. An adfluvial run also seems to be one plausible explanation for the large rainbows over 508 mm (20 in.) caught regularly in the main stem above Enaville. Large cutthroat over 406 mm (16 in.) have also reportedly been taken in the South Fork above Wallace.

OBJECTIVES

1. To document the passage of trout through the lower main stem of the Coeur d'Alene River.
2. To obtain information on fisheries in the lower main stem with reference to depollution efforts.

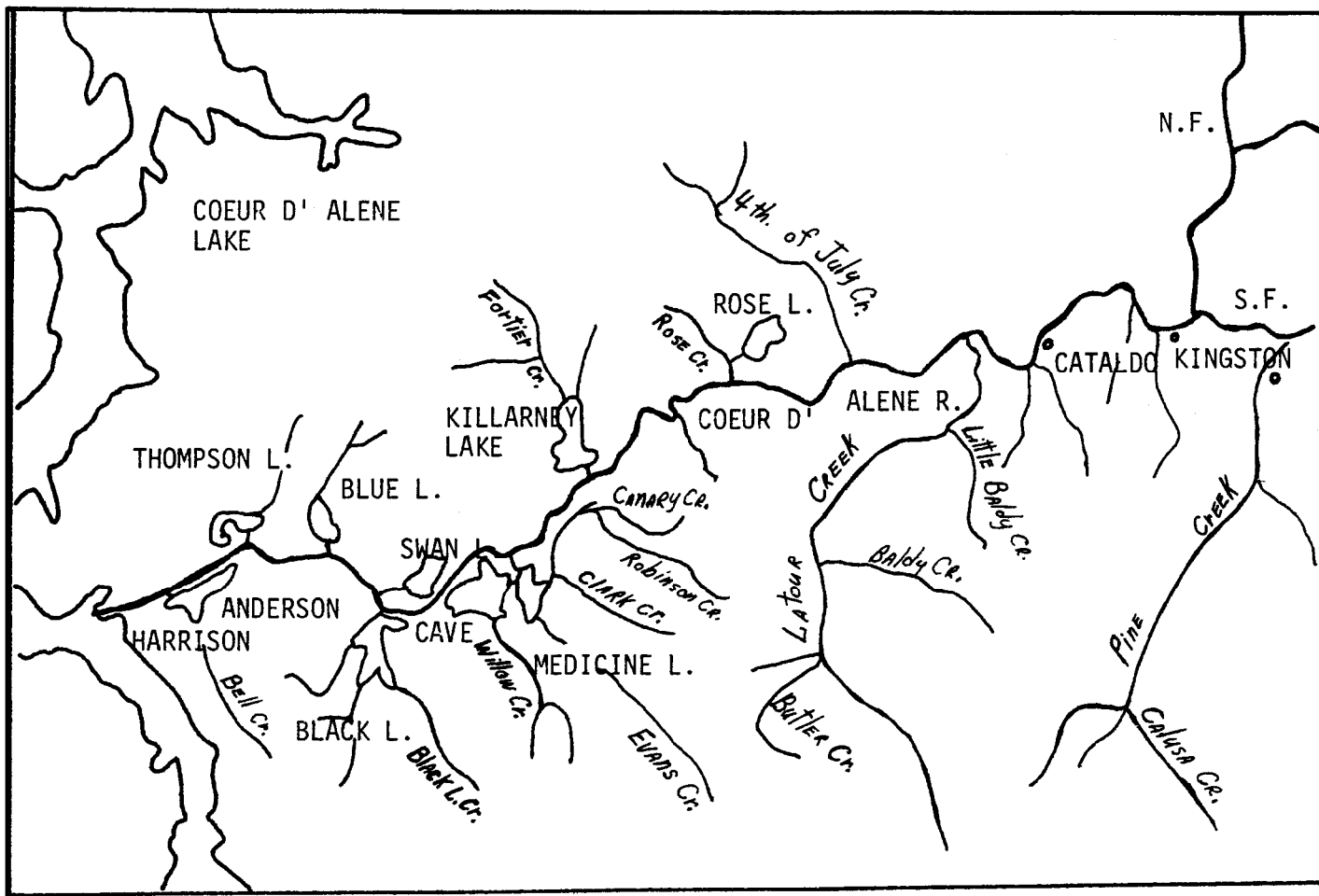


Figure 1. Main stem of the Coeur d'Alene River.

TECHNIQUES USED

Between 16 May and 31 May, I surveyed tributaries along the lower main stem of the Coeur d'Alene River for adfluvial cutthroat spawners. We considered trout over 279 mm (11 in.) as migratory (fluvial or adfluvial) fish.

I tagged trout in several tributary streams. Fish were collected in the streams by electrofishing and angling and marked with monel jaw tags. Tag recoveries in Coeur d'Alene Lake would conclusively demonstrate successful migration.

We used an electrofishing unit (Model WP-2c) mounted on a jet boat to collect fish in the lateral lakes near tributary mouths and in the main stem of the river. We also used primacord in the South Fork and in the main stem below the confluence to document the presence of fish.

FINDINGS

Tributary Surveys

Incidental to looking for adfluvial spawners in the lower main stem tributaries, I noted available spawning habitat and fish passage barriers. This information is listed below by stream. The numbers refer to:

1. Location of mouth of stream.
2. Barriers to fish passage.
3. Presence and location of any spawning trout.
4. Spawning habitat available to fish (qualitative).

Bell Canyon Creek

1. Tributary to Anderson Lake.
2. There are no barriers to fish passage.
3. No spawners were observed.
- f 4. This stream has some good spawning gravel that is partially silted, but it is of doubtful significance since it is intermittent by 1 June.

Thompson Creek

1. Tributary to Thompson Lake.
2. A cascade, which acts as a barrier (at least at low water) is located about 1.2 kilometers (.75 mile) above the mouth of the creek.
3. No spawners were seen, but 127-178 mm (5-7 in.) cutthroat were present along the entire stream.
4. Most of the stream contains poor spawning habitat, but the West Fork contains about 1.6 kilometers (1 mile) of good spawning gravel. This spawning site may be available during high water if the fish can negotiate the cascade.

Blue Lake Creek

1. Tributary to Blue Lake.
2. There are no road-associated barriers on the lower section, but the creek goes dry by mid-May approximately .8 kilometers (.5 mile) above the mouth.
3. No spawners were observed. However, there were 152-229 mm (6-9 in.) cutthroat and brook trout observed.
4. The lower section, which does not go dry, has excellent spawning gravel, but had been recently channelized.

Black Creek

1. Tributary to Black Lake.
2. There are no barriers near the lake, but a culvert under Highway 3 would probably be a velocity barrier.
3. No spawners were seen.
4. The stream has poor spawning habitat. The substrate is almost entirely made up of large boulders and flat rocks.

Fortier__ Creek

1. Tributary to Killarney Lake.
2. There are no fish passage barriers.
3. No adfluvial cutthroat spawners were observed, but many 76-127 mm (3-5 in.) and fewer 203-229 mm (8-9 in.) cutthroat were observed in the lower section on 22 May.
4. Approximately .4 kilometer (.25 mile) of good spawning habitat is present along the lower section; starting .8 kilometer (.5 mile) above the mouth, adjacent to Flintstone Ranch.

Willow Creek

1. Tributary to Cave Lake.
2. There are no barriers on the section of creek containing spawning habitat. There is a debris dam about 3.2 kilometers (2 miles) upstream from the mouth, but there is virtually no spawning habitat above this barrier.
3. Several pairs of cutthroat spawners were seen on 25 April. Spawners were also observed in April of 1973.
4. There is approximately 2.4 kilometers (1.5 miles) of fair spawning habitat starting about .8 kilometers (.5 mile) above the mouth. The stream, however, has been badly degraded by logging and by a feedlot operation located on the creek.

Evans Creek

1. Tributary to Medicine Lake.
2. There are no fish passage barriers.
3. Adfluvial cutthroat spawners were seen in Evans Creek on 25 April and were collected for westslope cutthroat brood stock. Thirty-one cutthroat were taken for brood stock from Evans Creek in 1973.

Evans Creek (Continued)

4. Evans Creek is one of the larger streams along the main stem. Good spawning gravel is present on the first 4.4 kilometers (2.75 miles) of stream; above that the stream gets steep and has little spawning habitat.

Robinson Creek

1. Tributary to Medicine Lake. Robinson Creek and Canary Creek empty into a drainage ditch which heads east toward the mouth of Clark Creek. The combined flow from these three streams enter Medicine Lake by way of a culvert under the dike road.
2. The box culverts that route the water under the highway are set level and offer no barrier to fish passage.
3. No adfluvial spawners were seen. Cutthroat up to 203 mm (8 in.) were numerous in the upper sections.
4. Good spawning gravel is available in the lower 1.6 kilometers (1 mile) of the creek.

Clark Creek

1. Tributary to Medicine Lake.
2. There are no apparent barriers on the main stem.
3. Spawning cutthroat were observed in April and spawners were also present in 1973.
4. Scattered spawning gravel is available on the lower 3.2 kilometers (2 miles).

Rose Lake Creek

1. Tributary to main stem of Coeur d'Alene River, but empties into a slough connected to Rose Lake during high water. Water backs up into this slough during periods of runoff because the Post Falls Dam raises the level in the river. A pump located at the mouth of the slough is supposed to pump out this excess water.
2. The culvert under Highway 3 should not be a fish passage barrier.
3. No spawners were observed, but 76-127 mm (3-5 in.) trout were present.
4. This stream carries little water. Some spawning gravel is available about .8 kilometers (.5 mile) above the mouth, but this area has been channelized repeatedly.

Latour Creek

1. Tributary to lower Coeur d'Alene River. The mouth is near Cataldo Mission.
2. There are no barriers in the main stem. Beaver dams and debris jams in Baldy Creek and Lost Girl Creek areas appear to be passable during high water.
3. No large spawning fish were seen. Spawning cutthroat approximately

Latour Creek (Continued)

229-254 mm (9-10 in.) were observed in Latour Creek, near Little Baldy Creek and about .4 kilometers (.25 mile) above the mouth of Butler Creek.

4. Little spawning habitat is available in the lower 18.5 kilometers (11.5 miles) of stream surveyed. There is some good gravel in the Little Baldy Creek area, but the substrate in the rest of the stream is mostly large rock. Local residents report spawning runs occur every year, but I was unable to locate any significant sections of good spawning habitat. The lower 3.2 kilometers (2 miles) of Latour Creek and various sections above that have been channelized for flood control.

Tributaries to Latour Creek that I checked also had poor spawning substrate. Little Baldy Creek is blocked to fish passage by the culvert at its mouth.

Almost all of the streams surveyed contained populations of westslope cutthroat trout. Many of these cutthroat showed evidence of rainbow influence and of hybridization with other cutthroat strains (Yellowstone). Brook trout were present in most of the streams, but were not numerous.

Adfluvial cutthroat spawners were present in Willow, Evans, and Clark creeks which are tributaries of Medicine and Cave lakes. Medicine and Cave lakes are connected by a channel. Whether these fish remain in these two lakes throughout the winter or move into Lake Coeur d'Alene remains unknown.

Due to the timing of this survey, the absence of spring spawning trout may not constitute conclusive evidence that these streams are not used. Latour Creek is the only tributary not associated with a lateral lake that I checked for large spawners. I was unable to find large spawning cutthroat in this stream. However, a rancher that lives on Latour Creek told me that he has seen spawning cutthroat in this stream for the past several years--but not in 1974.

The presence of adfluvial cutthroat trout in Fourth of July Creek, which I did not check this spring, was documented in 1972. Bjornn and Falter (1972) collected spawners (28-30 April 1972) ranging from 318-394 mm (12.5-15.5 in.) from Fourth of July Creek. This stream empties into a slough of the lower main stem at Dudley.

The presence of large cutthroat over 297 mm (11 in.) in Fourth of July Creek or Latour Creek would constitute evidence of migratory trout in the lower Coeur d'Alene River even though their origin is unknown.

Tagging

We concentrated on tagging cutthroat in the tributaries of the main stem below the confluence with the South Fork. We felt there would be a greater chance of tagging adfluvial fish in this area than in tributaries of the river above the confluence. These upper tributaries would likely have fluvial fish,

in addition to potential adfluvial and resident fish. Trout were also tagged in the Hecla Channel in the South Fork; and a sportsman, Ray Miles, tagged rainbow and cutthroat in the main stem above the confluence.

A total of 413 fish were tagged during the summer (Table 1).

Six tags were returned during the summer--two from Latour Creek and four from the main stem (above the South Fork). These fish were caught at essentially the same locations as they were tagged.

If any tagged fish are adfluvial, we hope to get tag returns during an intensive creel census planned for Lake Coeur d'Alene in 1975.

Lateral Lakes

We used electrofishing gear in three lateral lakes in an attempt to document the presence of, and to tag cutthroat trout. However, we were only able to catch warmwater species in this manner. Game fish caught were large-mouth bass, black crappie, yellow perch, bullheads, and pumpkinseeds (Table 2).

Although we did not catch any trout by electrofishing, cutthroat and rainbows are taken in the lakes by anglers in the spring and fall as demonstrated by conservation officer creel census (Table 3).

This year, as in past years, die-offs of yellow perch and bullheads occurred as temperatures rose in several lateral lakes. Examination of these fish indicated that the die-offs were due to some natural disease (possibly Columnaris) rather than to a water quality problem.

Fish Sampling in the South Fork and Main Stem

We electrofished in the main Coeur d'Alene River above and below its confluence with the South Fork. Immediately above the confluence, in a side slough of the main river, we obtained northern squawfish, fine-scaled suckers, bullheads, largemouth bass and tench. In the river channel itself, we found wild rainbows up to 444 mm (17.5 in.) in length.

Below the confluence with the South Fork, fish habitat is very poor. In 2.5 hours of electrofishing, we collected four tench, one cutthroat, and one bullhead. Using two charges of primacord, we obtained two cutthroat.

Fish are present in the South Fork above Wallace. We tagged several cutthroat 203-229 mm (8-9 in.) in length in this section. There have been reports of cutthroat up to 457 mm (18 in.) in length caught between Wallace and Mullan.

We attempted to collect fish below Wallace using primacord. At the following three location we obtained no fish: 1) below Smelterville, 2) below Big Creek, and 3) below Asarco pond. However, below Osburn, we collected three brook trout and one rainbow-cutthroat hybrid. These fish may be able to survive at this location, however, only due to seepage of freshwater from the Gene Day Park pond.

Table 1. Trout tagged in streams of the Coeur d'Alene River drainage during 1974.

Stream	Number of fish tagged
Clark Creek	5
Willow Creek	13
Evans Creek	23
Robinson Creek	14
Pine Creek	19
Latour Creek	161
Little Baldy Creek	1
Teepee Creek	1
South Fork Coeur d'Alene River	118
Coeur d'Alene River	58
Total	413

Table 2. Fish collected by electrofishing lateral lakes adjacent to the Coeur d'Alene River during the summer of 1974.

Species	Medicine Lake	Cave Lake	Killarney Lake
TIME--(total)	245 min.	50 min.	120 min.
Yellow perch	160	32	68
Largemouth bass	7	--	1
Black crappie	5	38	3
Pumpkinseed	26	1	4
Bullheads	30	8	33
Tench	1	4	4
Sucker	--	--	1

Table 3. Trout in lateral lakes adjacent to Coeur d'Alene River as recorded in conservation officer creel census, 1960 to 1973.

Date*	Lake	Species	Number
1960	Black	Cutthroat	7
1962	Cave	Cutthroat	25
Apr. - 1965	Cave	Cutthroat	3
May - 1965	Anderson	Cutthroat	2
May - 1965	Medicine	Cutthroat	1
Apr. - 1967	Black	Cutthroat	29
May - 1967	Thompson	Cutthroat	12
Jan. - 1968	Blue	Rainbow	1
May - 1972	Medicine	Rainbow	10
June - 1972	Black	Cutthroat	1
Oct. - 1972	Medicine	Cutthroat	8

* No trout were recorded in conservation officer creel census in 1961, 1966, 1969, 1970, 1971 or 1973, but this does not establish their absence during these years.

A livebox bioassay conducted by the Environmental Protection Agency, 8-11 July 1974, indicated toxicity of the water to rainbows has decreased since similar studies in 1973. Test fish died only at Smelterville and Enaville this summer as compared to mortality at all South Fork main stem locations within 72 hours in June 1973 (Figures 2 and 3).

DISCUSSION

I found no direct evidence during the project that an adfluvial run of trout occurs in the Coeur d'Alene River above the South Fork. However, indirect evidence demonstrates that trout probably do make a spawning run.

Trout can survive in the lower Coeur d'Alene River, perhaps long enough to migrate to unpolluted areas. As illustrated by the 1974 livebox bioassay, and by the fact that we collected brook and cutthroat trout below the confluence with the South Fork.

The adfluvial run of cutthroat in Fourth of July Creek in 1972 (and reportedly in Latour Creek) is evidence for the presence of migrating trout in the lower Coeur d'Alene River. Residents of Cataldo report seeing runs of trout migrating upriver in the spring. Adfluvial runs may account for the 406-457 mm (16-18 in.) cutthroat reportedly caught in the South Fork and for the large wild rainbows over 508 mm (20 in.) caught in the main stem above Enaville.

The largest documented cutthroat spawning run along the Coeur d'Alene River occurs in tributaries to Cave and Medicine lakes. Cutthroat are also caught in other lateral lakes. So far, it appears that these particular populations are restricted to the lateral lakes. However, runs in tributaries which empty directly into the Coeur d'Alene River below the South Fork indicate that fish are capable of moving through at least a short length of polluted river. This in turn raises the possibility that some adults come from Lake Coeur d'Alene.

The existence of Coeur d'Alene Lake run trout above the South Fork is more open to question. Certainly historically adfluvial populations there were severely curtailed during years of pollution levels that were far more serious than those we presently experience. Yet, it would seem that resident cutthroat in the upper reaches of the tributaries would act as a reservoir for an adfluvial race. The intermittent nature of many creeks could act as an impetus for emigration, and in recent years at least some of these fish might logically end up in the lake rather than dying in polluted sections. Emigrations of any remnant adfluvial populations probably occurs during spring runoff when chances of survival might be even better than 1974 livebox tests indicate. Tag returns in the next few years could help clarify these issues.

LITERATURE CITED

- Bjornn, T. C. and C. M. Falter. 1972. Current status of fish and wildlife Cedar Canyon--Rose Lake Junction Section of I-90 (Idaho). University of Idaho.

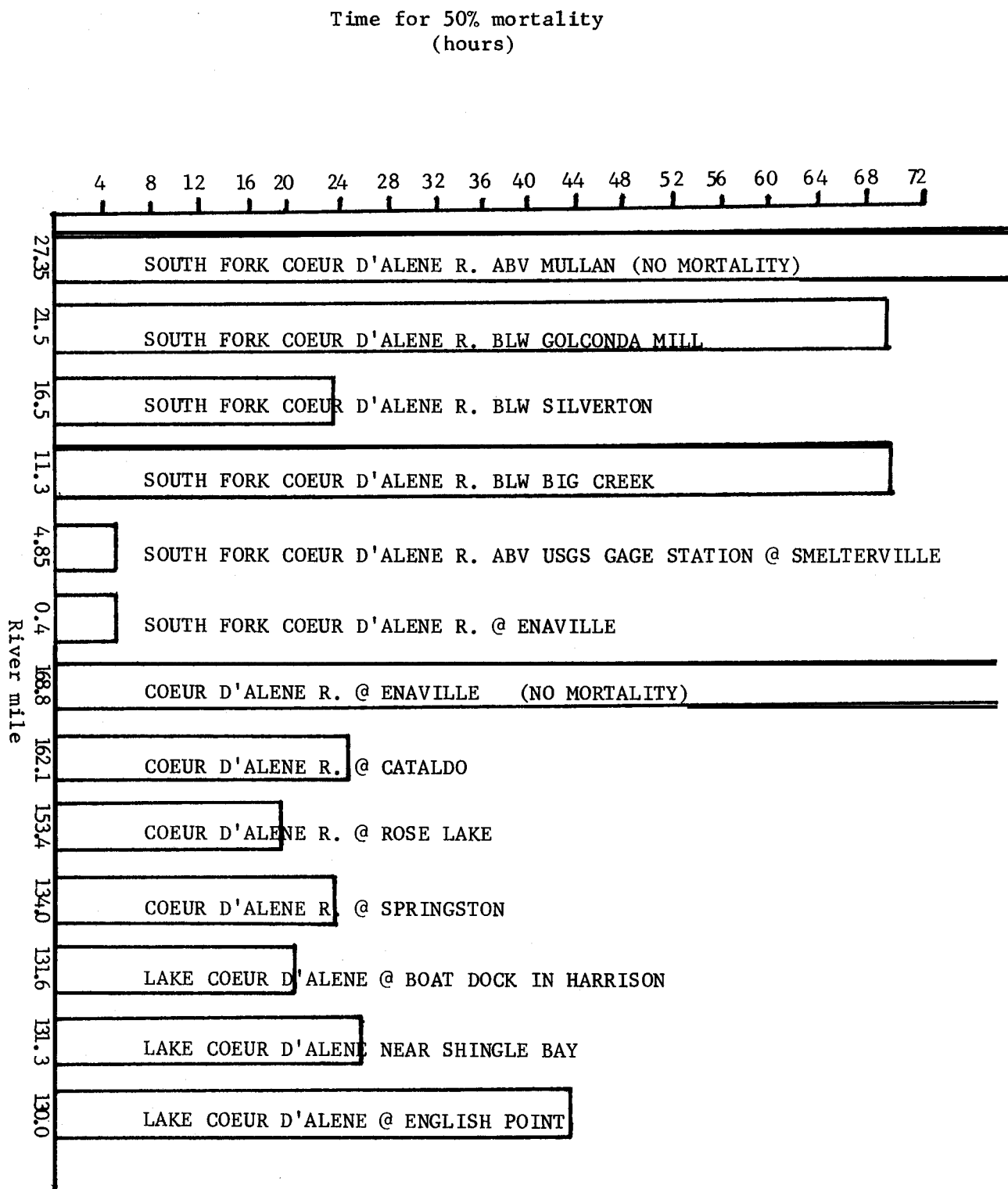


Figure 2. Coeur d'Alene livebox study, June 1973 (Kreizenbeck 1973)

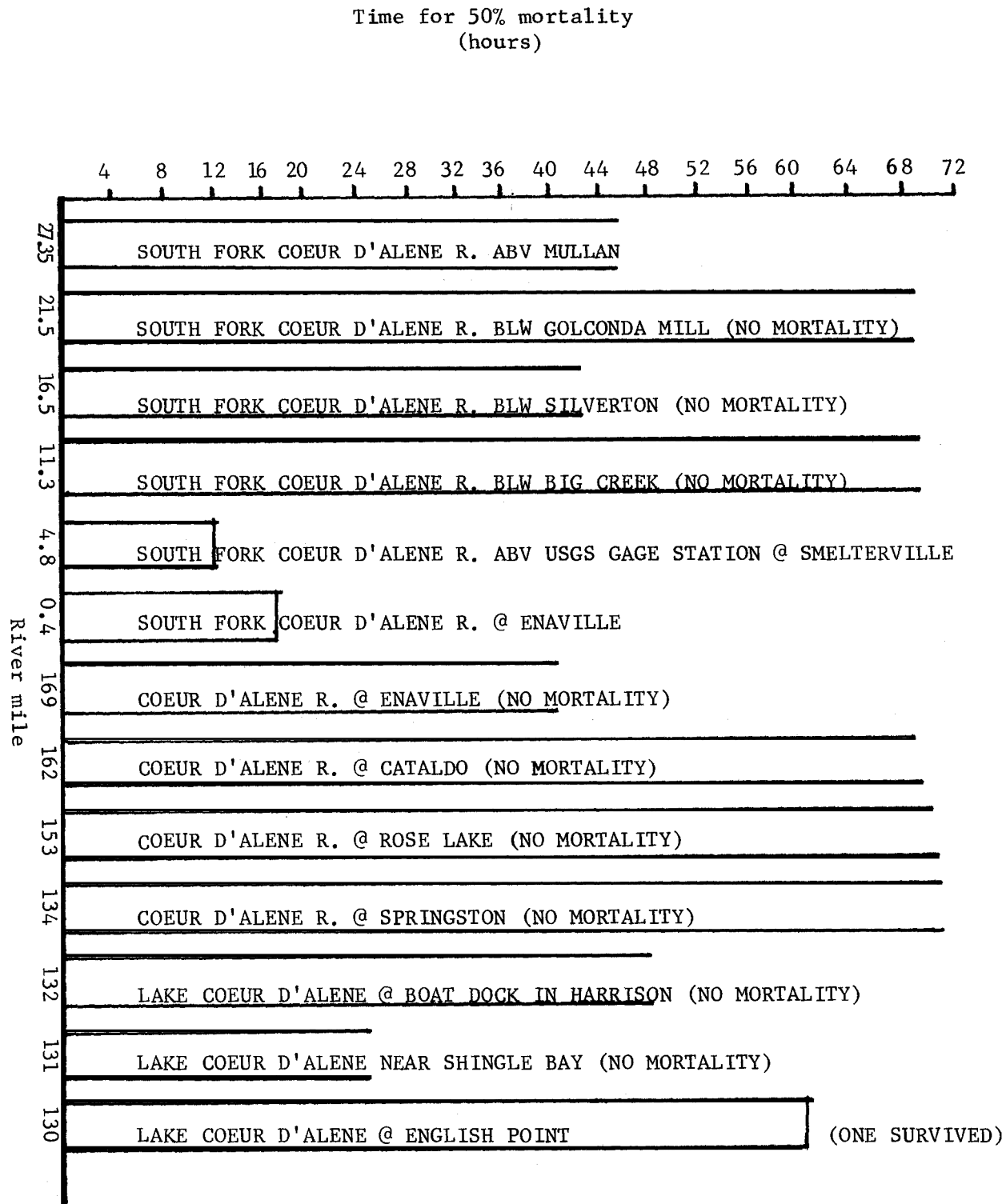


Figure 3. Coeur d'Alene livebox study, July 1974.

Note : (Open bar prior to 70 hours indicates fish survived but escaped at that time).

Kreizenbeck, R. 1973. Coeur d'Alene Livebox Bioassay, U.S. EPA. Region 1, Surveillance and Analysis Division.

Region 1 Fisheries Management Biologists. Creel Census Summaries, 1960-1973.

Regional Fishery Management Biologists, 1960-1973. Region 1 Creel Census Summaries.

A P P E N D I X

COEUR D'ALENE RIVER STUDY - FISH TAGGING

Tag number	Date	Species	Length (mm)	Location
G 102	23 Aug. 1974	CT	196	SF CDA - Hecla
G 103	"	CT	220	"
G 104	"	CT	168	"
G 105	"	CT	130	"
G 106	"	CT	155	"
G 107	"	CT	162	"
G 108	"	CT	149	"
G 109	"	CT	195	"
G 110	"	CT	210	"
G 111	"	RB	145	"
G 112	"	CT	175	"
G 113	"	CT	138	"
G 114	"	CT	157	"
G 116	"	RB	154	"
G 117	"	CT	131	"
G 118	"	HRB	200	"
G 119	"	CT	190	"
G 120	"	CT	180	"
G 121	"	CT	138	"
G 122	"	CT	130	"
G 123	"	CT	200	"
G 124	"	CT	168	"
G 125	"	CT	150	"
G 126	"	CT	149	"
G 127	"	CT	130	"
G 128	"	CT	172	"
G 129	"	CT	133	"
G 130	"	CT	155	"
G 131	"	CT	152	"
G 132	"	CT	155	"
G 133	"	CT	140	"
G 134	"	CT	220	"
G 135	"	CT	155	"
G 136	"	CT	132	"
G 137	"	CT	157	"
G 138	"	CT	190	"
G 139	"	CT	147	"
G 140	"	CT	151	"
G 141	"	CT	150	"
G 142	"	CT	146	"
G 143	"	CT	130	"
G 144	"	CT	126	"
G 145	"	CT	141	"
G 146	"	CT	120	"
G 147	"	CT	151	"
G 148	"	CT	150	"
G 149	"	HRB	203	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
G 150	23 Aug. 1974	CT	197	SF CDA - Hecla Channel
G 151	"	CT	195	"
G 152	"	CT	150	"
G 153	"	CT	140	"
G 154	"	HRB	208	"
G 155	"	CT	177	"
G 156	"	CT	181	"
G 157	"	CT	149	"
G 158	"	CT	125	"
G 159	"	CT	129	"
G 161	"	CT	198	"
G 162	"	CT	180	"
G 163	"	CT	135	"
G 164	"	CT	140	"
G 165	"	CT	155	"
G 166	"	CT	127	"
H 5841	25 Apr. 1974	CT	291	Evans Cr. - Upper Meadow
H 5842	"	CT	270	"
H 5843	"	CT	308	Willow Creek
H 5858	16 May 1974	CT	204	Little Baldy Creek
H 5860	7 July 1974	RB-CT	368	CDA - Above Prichard
H 5861	"	RB	305	"
H 5862	12 July 1974	CT	305	CDA - Enaville
H 5863	"	CT	254	CDA - Below Prichard
H 5864	"	RB-CT	305	"
H 5865	"	H-RB	292	"
H 5866	13 July 1974	RB-CT	298	"
H 5867	"	H-RB	321	"
H 5868	"	H-RB	305	"
H 5869	"	RB	343	"
H 5870	"	RB-CT	368	"
H 5871	14 July 1974	RB	305	"
H 5872	"	RB	330	"
H 5874	"	CT	381	CDA - Above Enaville
H 5875	16 July 1974	RB	286	CDA - Above Prichard
H 5876	"	RB	308	"
H 5877	"	RB	387	"
H 5878	23 July 1974	RB	256	NF CDA
H 5879	"	H-RB	317	NF CDA
H 5902	24 July 1974	CT	201	WF Pine Cr. - Below Calusa Cr.
H 5903	"	CT	228	"
H 5904	25 July 1974	CT	205	"
H 5905	1 Aug. 1974	CT	225	Latour Creek - At Baldy
H 5906	6 Aug. 1974	CT	264	Latour Creek - Above Lost Girl Cr.
H 5907	"	CT	240	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
H 5908	7 Aug. 1974	WRB	440	CDA - At Enaville
H 5922	23 Aug.	CT	234	SF CDA - Hecla Channel
H 5923		H-RB	305	"
H 5925	"	H-RB	278	"
H.5926	"	H-RB	235	"
H 5927	"	H-RB	337	"
H 5928	"	H-RB	267	"
H 5929	"	H-RB	279	"
H 5930	"	H-RB	253	"
H 5931	"	H-RB	280	"
H 5998	7 Aug. 1974	WRB	410	CDA - At Enaville
H 6207	16 July 1974	CT	216	Teepee Creek
K 102	19 July 1974	CT	248	Latour Creek - At Baldy Creek
K 103		CT	224	"
K 104	23 July 1974	CT	216	CDA - Above Enaville
K 105	24 1974	RB	205	"
K 107	"	H-RB	225	"
K 109	"	RB	215	"
K 110	"	CT	270	CDA - Below Prichard
K 111		RB	337	
K 112	29 July	RB	245	CDA - Above Enaville
K 113	"	RB	295	CDA - Above Prichard
K 114	"	RB	457	CDA - Below Prichard
K 115	"	RB	259	CDA - "
K 116	18 Aug.	H-RB	205	CDA - At Avery Creek
K 199	24 July	CT	363	CDA - Below Prichard
X 2403	11 Aug. 1974	RB	415	CDA - Above Prichard
K 108	24 July	H-RB	225	CDA - Above Enaville
Z 601	19 July 1974	CT	140	Latour Cr. - At Baldy Creek
Z 602	10 June	CT	146	Evans Creek
Z 603	"	CT	199	"
Z 604	"	CT	128	"
Z 605	"	CT	153	"
Z 606	13 June	CT	156	"
Z 607	"	CT	103	"
Z 608	"	CT	100	"
Z 609	"	CT	185	"
2610	"	CT	182	"
Z 611	"	CT	132	"
Z 612	19 July 1974	CT	144	Latour Creek - At Baldy Creek
Z 613	13 June	CT	166	Clark Creek
Z 614	"	CT	222	"
Z 615	"	CT	122	"
Z 616	"	CT	120	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
Z 617	13 June 1974	CT	120	Clark Creek
Z 618	17 June 1974	CT	140	Robinson Creek
Z 619	"	CT	120	"
Z 620	"	CT	160	it
Z 621	"	CT	135	"
Z 622	"	CT	145	"
Z 623	"	CT	165	"
Z 624	"	CT	195	"
Z 625	18 June 1974	CT	150	"
Z 626	"	CT	125	"
Z 627	"	CT	140	"
Z 628	"	CT	138	"
Z 629	"	CT	175	"
Z		CT	190	"
Z		CT	175	"
Z 632	21 June 1974	CT	149	Willow Creek
Z 633	"	CT	140	"
Z 634	"	CT	180	It
Z 635	"	CT	157	"
Z 636	21 June 1974	CT	130	Willow Creek
Z 637	21 June 1974	CT	140	it
Z 638	"	CT	152	It
Z 639	"	CT	138	"
Z 640	"	CT	155	"
Z		CT	133	it
Z		CT	130	"
Z 643	24 June 1974	CT	130	
Z 644	26 June 1974	CT	230	Pine Creek
Z 645	"	CT	205	"
Z 646	"	CT		"
Z 647	"	CT		"
Z 648	15 July 1974	CT	152	SF CDA - Below Golconda
Z 649	"	CT	165	Below Golconda (SF CDA River)
Z 650	"	CT	165	
Z 651	"	CT	190	SF CDA - Above Wallace
Z 652	"	CT	133	"
Z 653	"	CT	210	"
Z 654	"	CT	165	"
Z 655	"	CT	152	"
Z 656	17 July 1974	CT	125	Latour Cr. - At Little Raldy Creek
Z 657	"	CT	165	It
Z 658	"	CT	125	"
Z 659	"	CT	135	"
Z 660	"	CT	130	"
Z 661	"	CT	125	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
Z 662	17 July 1974	CT	135	Latour Cr. - At Little Baldy
Z 663	"	CT	134	"
Z 664	19 July 1974	CT	187	Latour Cr. - At Baldy
Z 665	"	CT	182	"
Z 666	"	CT	185	"
Z 667	"	CT	167	"
Z 668	"	CT	136	"
Z 669	"	CT	147	"
Z 670	"	CT	153	"
Z 671	"	CT	145	"
Z 672	"	CT	134	"
Z 673	"	CT	131	"
Z 674	"	CT	130	"
Z 675	"	CT	171	"
Z 676	"	CT	141	"
Z 677	"	CT	200	"
Z 678	"	CT	201	"
Z 679	"	CT	145	"
Z 680	"	CT	169	"
Z 681	"	CT	139	"
Z 682	"	CT	125	"
Z 683	"	CT	134	"
Z 684	"	CT	135	"
Z 685	"	CT	161	"
Z 686	"	CT	140	"
Z 687	"	CT	130	"
Z 688	"	CT	125	"
Z 689	"	CT	130	"
Z 690	"	CT	142	"
Z 691	"	CT	177	"
Z 692	"	Cl	175	"
Z 693	"	CT	130	"
Z 694	"	CT	155	"
Z		CT		"
Z		CT		"
Z		CT		"
Z		CT		"
Z		CT		"
Z		CT		"
Z 701	1 Aug. 1974	CT		"
Z 702	"			"
Z 703	6 July 1974	RB-CT	174	CDA - Below Prichard
Z 704	7 July 1974	RB	254	CDA - Above Prichard
Z 705	12 July 1974	CT	203	CDA - Below Prichard
Z 706	"	RB-CT	248	"
Z 707	"	RB	235	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
Z 708	13 July	RB	226	CDA - Below Prichard
Z 709	"	CT	226	"
Z 710	14 July	RB	241	
Z 711	16 July	H-RB	279	CDA - Above Prichard
Z 712	"	RB	279	"
Z 713	"	RB	219	"
Z 714	"	CT	241	"
Z 715	"	RB	266	"
Z 716	"	CT	222	"
Z 717	"	H-RB	273	"
Z 718	22 July	CT	135	Latour Cr. - Above
Z 719	"	CT	133	"
Z 720	"	CT	177	"
Z 721	"	CT	136	"
Z 722	"	CT	131	"
Z 723	"	CT	170	"
Z 724	"	CT	145	"
Z 725	"	CT	152	"
Z 726	"	CT	130	"
Z 727	"	CT	133	"
Z 728	"	CT	139	"
Z 729	24 July	CT	154	Pine Creek
Z 730	"	CT	194	"
Z 731	"	CT	178	"
Z 732	"	CT	184	"
Z 733	"	CT	157	"
Z 734	"	CT	179	Pine Creek, WF below
Z 735	"	CT	160	Calusa Creek, WF below
Z 736	"	CT	144	"
Z 737	"	CT	165	"
Z 738	"	CT	130	Latour Creek
Z 739	"	CT	209	Calusa Creek - WF
Z 740	"	CT	133	"
Z 741	"	CT	165	"
Z 742	25 July	CT	171	Latour Creek
Z 743	"	CT	197	"
Z 744	"	CT	127	"
Z 745	"	CT	140	"
Z 746	"	CT	127	"
Z 747	"	CT	131	"
Z 748	"	CT	188	"
Z 749	"	CT	198	"
Z 750	"	CT	157	"
Z 751	"	CT	135	"
Z 752	"	CT	154	"
Z 753	"	CT	191	"
Z 754	"	CT	154	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
Z 755	29 July 1974	CT	161	Latour at Butler Creek
Z 756	"	CT	146	"
Z 757	"	CT	178	"
Z 758	"	CT	180	"
Z 759	"	Cr	140	"
Z 760	"	CT	152	"
Z 761	"	CT	193	"
Z 762	"	CT	228	"
Z 763	"	CT	234	"
Z 764	"	CT	186	"
Z 765	"	Cr	139	"
Z 766	"	CT	145	"
Z 767	"	CT	131	"
Z 768	"	CT	173	"
Z 769	"	CT	133	"
Z 770	"	CT	145	"
Z 771	"	CT	173	"
Z 772	"	CT	163	"
Z 773	"	CT	147	"
Z 774	"	Cr	148	"
Z 775	"	CT	162	"
Z 776	"	CT	148	"
Z 777	"	CT	201	"
Z 778	"	CT	208	"
Z 779	30 July 1974	CT	171	Latour Cr. - At Baldy Cr.
Z 780	if	CT	213	"
Z 781	"	CT	182	"
Z 782	"	CT	132	"
Z 783	"	Cr	130	"
Z 784	"	CT	129	"
Z 785	"	Cr	169	"
Z 786	"	CT	174	"
Z 787	"	CT	175	"
Z 788	"	CT	150	"
Z 789	"	CT	164	"
Z 790	"	Cr	173	"
Z 791	"	Cr	159	"
Z 792	"	CT	137	"
Z 793	"	CT	168	"
Z 794	"	CT	134	"
Z 795	"	CT	138	"
Z 796	"	CT	142	Latour Cr. - Below Baldy Cr.
Z 797	"	CT	194	"
Z 798	"	CT	164	"
Z 799	"	CT	175	"
Z 3102	1 Aug. 1974	CT	158	Latour Cr. - At Baldy
Z 3103	"	CT	176	"

Coeur d'Alene River Study - Fish Tagging (Continued).

Tag number	Date	Species	Length (mm)	Location
Z 3104	1 Aug. 1974	CT	174	Latour Cr. - At Baldy
Z 3105	"	CT	128	"
Z 3106	"	CT	117	"
Z 3107	"	CT	131	"
Z 3108	"	CT	115	"
Z 3109	"	CT	115	"
Z 3110	"	CT	155	"
Z 3111	"	CT	183	"
Z 3112	"	CT	150	"
Z 3113	"	CT	151	"
Z 3115	"	CT	151	"
Z 3116	"	CT	172	"
Z 3117	"	CT	198	"
Z 3118	"	CT	148	"
Z 3119	"	CT	123	"
Z 3120	"	CT	110	"
Z 3121	"	CT	108	"
Z 3122	6 Aug. 1974	CT	160	Latour Cr. - Above Lost Girl Creek
Z 3123	"	CT	181	"
Z 3125	"	CT	184	"
Z 3126	"	CT	151	"
Z 3127	"	CT	155	"
Z 3128	"	CT	108	"
Z 3129	"	CT	147	"
Z 3130	"	CT	113	"
Z 3131	"	CT	192	"
Z 3132	"	CT	200	"
Z 3133	"	CT	155	"
Z 3134	"	CT	191	"
Z 3135	"	CT	166	"
Z 3114	1 Aug. 1974	CT	145	Latour Cr. - At Baldy
Z 3136	6 Aug. 1974	CT	166	Latour Cr. - Above Lost Girl Creek
Z 3137	"	CT	118	"
Z 3138	"	CT	125	"
Z 3139	"	CT	143	"
Z 3140	"	CT	195	"
Z 3141	7 Aug. 1974	W-RB	145	CDA - At Enaville
Z 3142		W-RB	173	"
Z 3144		W-RB	140	"
Z 3145	12 Aug. 1974	CT	125	Evans Cr. - 1 mile above
Z 3147	"	CT	194	"
Z 3148	"	CT	150	"
Z 3149	"	CT	153	"
Z 3150	"	CT	125	"

Coeur d'Alene River Study - Fish Tagging (Continued).

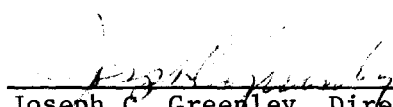
Tag number	Date	Species	Length (mm)	Location
Z 3151	12 Aug. 1974	CT	132	Evans Cr. - 1 mile above mouth
Z 3152	"	CT	145	"
Z 3153	"	CT	135	"
Z 3154	"	CT	107	"
Z 3155	"	CT	150	"
Z 3157	"	CT	150	"
Z 3158	23 Aug. 1974	CT-RB	110	SF CDA - Hecla Channel
Z 3159	"	CT	108	"
Z 3161	"	CT	134	"
Z 3162	"	CT	118	"
Z 3163	"	"	129	"
Z 3164	"	CT	140	"
Z 3165	"	CT	118	"
Z 3166	"	CT	125	"
Z 3167	"	CT	123	"
Z 3168	"	CT	122	"
Z 3169	"	CT	115	"
Z 3170	"	GT	125	"
Z 3171	"	CT	112	"
Z 3172	"	CT	129	"
Z 3173	"	CT	123	"
Z 3174	"	CT	128	"
Z 3175	"	CT	116	"
Z 3176	"	CT-RB	110	"
Z 3177	"	CT	110	"
Z 3178	"	RB	121	"
Z 3179	"	CT	125	"
Z 3180	"	CT	112	"
Z 3181	23 Aug. 1974	CT	138	SF CDA - Hecla Channel
Z 3182	"	CT	135	"
Z 3183	"	CT	123	"
Z 3184	"	CT	115	"
Z 3185	"	CT	126	"
Z 3186	"	CT	120	"
Z 3187	"	CT	111	"
Z 3188	"	CT	133	"
Z 3189	"	CT	108	"
Z 3190	"	CT	110	"
Z 3191	"	CT	114	"
Z 3192	"	CT	129	"
Z 3193	"	CT	115	"
Z 3195	"	CT	119	"
Z 3196	"	CT	115	"
Z 3199	"	CT	130	"

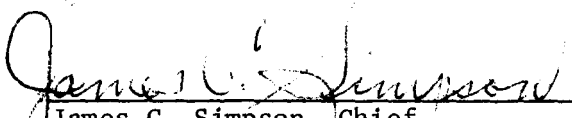
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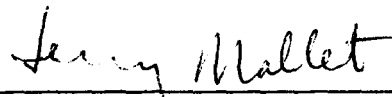
Steve Bauer
Biological Aide

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